

Docket No. RSW920030287US1

**CLAIMS:**

What is claimed is:

- 1 1. A process for providing an interface to a client for  
2 manipulating container managed persistence beans, the  
3 process comprising the data processing system implemented  
4 steps of:  
5 receiving a call from a client to manipulate an  
6 instance of a container managed persistence bean, wherein  
7 the call is received using a set of generated code,  
8 wherein the set of generated code is designed to perform  
9 bean specific functions including bean specific methods  
10 for a bean type, managing input parameters for the bean  
11 specific methods, processing a result of bean finders,  
12 and interfacing with a backend; and  
13 processing the call through a set of calls between  
14 the set of generated code and the runtime code, wherein  
15 the runtime code performs the functions, which are  
16 performed in a manner that is nonspecific to a bean type;  
17 and  
18 returning a result to the client.
- 1 2. The process of claim 1, wherein the instance of a  
2 container managed persistence bean is manipulated using a  
3 set of bean specific methods that apply to an instance of  
4 the container manage persistence bean.
- 1 3. The process of claim 1, wherein the set of generated  
2 code includes a concrete bean, a bean adapter binding,

Docket No. RSW920030287US1

3 and injector, an extractor, a function set, and a data  
4 cache entry.

1 4. The process of claim 1, wherein the backend is a  
2 database or other data storage system.

1 5. The process of claim 2, wherein the set of bean  
2 specific methods includes creating, storing, deleting and  
3 finding a bean.

1 6. The process of claim 3, wherein the bean adaptor  
2 binding, the extractor and the function set is specific  
3 to a backend.

1 7. The process of claim 1, wherein processing a result  
2 of bean finders includes extracting data from the backend  
3 and converting the data into a format used by the  
4 instance of a container managed persistence bean.

1 8. The process of claim 1, wherein managing input  
2 parameters for the bean specific methods includes  
3 converting input parameters from a format used by the  
4 instance of a container managed persistence bean to a  
5 formatted input for use in accessing a backend when  
6 called by the runtime code.

1 9. A container managed persistence entity bean system  
2 comprising:

3 runtime code, wherein the runtime code provides  
4 functions to a plurality of bean types;

Docket No. RSW920030287US1

5           a concrete bean, wherein the concrete bean receives  
6 requests from a client to manipulate an instance of a  
7 container managed persistence bean and manipulates the  
8 instance of the container managed persistence bean when  
9 called by the client by calling the runtime code;  
10          an injector, wherein the injector converts input  
11 parameters from a format used by the concrete bean into a  
12 formatted input for use in accessing a backend when  
13 called by the runtime code;  
14          a bean adapter binding, wherein the bean adapter  
15 binding provides access to bean specific information for  
16 a particular container managed persistence bean by  
17 providing the at least one of the injector, the  
18 extractor, and bean method information to the runtime  
19 code in response to a call from the runtime code for  
20 access;  
21          a function set, wherein the function set provides  
22 access to a backend in response to being called by the  
23 runtime, wherein the functions set uses the formatted  
24 input created by the injector to access the backend;  
25          an extractor, wherein the extractor receives data  
26 for a given instance of a container managed persistence  
27 bean from the backend data structure and formats data  
28 into a format used by the concrete bean; and  
29          a data cache entry, wherein the data caches entry  
30 holds data received by the extractor and wherein the data  
31 is data for a given instance of a container managed  
32 persistence bean.

Docket No. RSW920030287US1

1 10. The container managed persistence entity bean system  
2 of claim 9, wherein the concrete bean receives requests  
3 to locate container managed persistence beans and  
4 processes the requests by calling the runtime code;

1 11. The container managed persistence entity bean system  
2 of claim 10, wherein the concrete bean locates a bean by  
3 finding a bean.

1 12. The container managed persistence entity bean system  
2 of claim 10, wherein the concrete bean locates a specific  
3 container managed persistence bean instance by creating a  
4 container managed persistence bean associated with a bean  
5 type, but not associated with a specific bean instance.

1 13. The container managed persistence entity bean system  
2 of claim 9, wherein the runtime code includes functions  
3 that are shared by a plurality of container managed  
4 persistence beans.

1 14. The container managed persistence entity bean system  
2 of claim 9, wherein the data includes at least one of a  
3 Java primitive and an object reference.

1 15. The container managed persistence entity bean system  
2 of claim 9, wherein the backend is a database or other  
3 data storage system.

Docket No. RSW920030287US1

1 16. The container managed persistence entity bean system  
2 of claim 9, wherein the concrete bean includes a custom  
3 bean type.

1 17. The container managed persistence entity bean system  
2 of claim 9, wherein the runtime code is shared by the  
3 plurality of bean types.

1 18. The container managed persistence entity bean system  
2 of claim 9, wherein the function set executes bean-  
3 specific, backend specific data access logic.

1 19. The container managed persistence entity bean system  
2 of claim 9, wherein in response to receiving requests  
3 from a client to manipulate an instance of a container  
4 managed persistence bean, the concrete bean manipulates  
5 the instance of the container managed persistence bean  
6 when called by the client by calling the inherited bean  
7 specific functions prior to calling the runtime code.

1 20. The container managed persistence entity bean system  
2 of claim 19, wherein the inherited bean specific  
3 functions is written by a specific bean type provider.

1 21. The container managed persistence entity bean system  
2 of claim 19, wherein the inherited bean specific  
3 functions performs additional logic.

1 22. A computer program product in a computer readable  
2 medium for providing an interface to a client for

Docket No. RSW920030287US1

3 manipulating container managed persistence beans, the  
4 process comprising the data processing system implemented  
5 steps of:

6 first instructions for receiving a call from a  
7 client to manipulate an instance of a container managed  
8 persistence bean, wherein the call is received using a  
9 set of generated code, wherein the set of generated code  
10 is designed to perform bean specific functions including  
11 bean specific methods for a bean type, managing input  
12 parameters for the bean specific methods, processing a  
13 result of bean finders, and interfacing with a backend;  
14 and

15 second instructions for processing the call through  
16 a set of calls between the set of generated code and the  
17 runtime code, wherein the runtime code performs the  
18 functions, which are performed in a manner that is  
19 nonspecific to a bean type; and

20 third instructions for returning a result to the  
21 client.

1 23. The computer program product of claim 22, wherein  
2 the instance of a container managed persistence bean is  
3 manipulated using a set of bean specific methods that  
4 apply to an instance of the container manage persistence  
5 bean.

1 24. The computer program product of claim 22, wherein  
2 the set of generated code includes a concrete bean, a  
3 bean adapter binding, and injector, an extractor, a  
4 function set, and a data cache entry.

Docket No. RSW920030287US1

1 25. The computer program product of claim 22, wherein  
2 the backend is a database or other data storage system.

1 26. The computer program product of claim 24, wherein  
2 the set of bean specific methods includes creating,  
3 storing, deleting and finding a bean.

1 27. The computer program product of claim 22, wherein  
2 the bean adaptor binding, the extractor and the function  
3 set is specific to a backend.

1 28. The computer program product of claim 22, wherein  
2 processing a result of bean finders includes extracting  
3 data from the backend and converting the data into a  
4 format used by the instance of a container managed  
5 persistence bean.

1 29. The computer program product of claim 22 wherein  
2 managing input parameters for the bean specific methods  
3 includes converting input parameters from a format used  
4 by the instance of a container managed persistence bean  
5 to a formatted input for use in accessing a backend when  
6 called by the runtime code.